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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,575	02/11/2002	Dirk Wagenaar	9911174	4721

7590

07/09/2003

Tyco Technology Resources
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EXAMINER

NADAV, ORI

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 07/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,575

Applicant(s)

WAGENAAR ET AL.

Examiner

ori nadav

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 50-60 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-49 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 19 is/are rejected.
- 7) ☒ Claim(s) 4-18 and 20-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of claims 1-49 in Paper No. 8 is acknowledged.

Oath/Declaration

2. The oath/declaration filed on 01/29/2000 is acceptable.

Drawings

3. The formal drawings filed on 01/29/2000 are acceptable.

Information Disclosure Statement

4. The Information Disclosure Statement filed on 02/08/2001 has been considered.

Specification

5. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

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Claim Objections

6. Claims 2 and 27 are objected to because of the following informalities:

Claims 2 and 27 recite the limitation "the first and second electrodes" in lines 4, respectively. Claims 18 and 42 recite the limitation "the intrinsic stress" in lines 1-2, respectively. Claims 19 and 43 recite the limitation "the second contact" in lines 3, respectively. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ichiya et al. (5,544,001).

Ichiya et al. teach in figure 1 and related text a microstructure relay comprising: a body including upper 10 and lower 20 portions, wherein the lower portion 20 is formed from a substrate and the upper portion is formed on the substrate to avoid bonding of the lower portion to the upper portion; a support member 31 having a first end fixed to the

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body to form a cantilever, wherein an upper surface of the support member and a lower surface of the upper portion of the body forms a cavity; and a first contact region located on the upper surface at a second end of the support member, the first contact region comprising a first contact 32, wherein pivoting the support member toward the lower surface causes the first contact 32 to be electrically coupled to a counter contact 14, and wherein the support member is pivoted toward the lower surface by electrostatic force, the electrostatic force generated by applying a voltage potential to the first and second electrodes 46, 12, the first electrode 46 is located on the upper surface and the second electrode 12 is located on the lower surface, wherein a second contact region on the lower surface, the second contact region comprising the second contact 14.

Regarding claim 19, Ichiya et al. teach in figure 1 and related text a second support member 30, the second support member having a first end fixed to the body and a second contact 40 supported at a second end on an upper surface of the second support member.

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Allowable Subject Matter

9. Claims 26-49 are allowed.
10. Claims 4-18 and 20-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for allowance

11. The following is an examiner's statement of reasons for allowance:

Regarding claims 4 and 26, Ichiya et al. (5,544,001) appear to be the closest prior art reference. Ichiya et al. teach substantially the entire claimed structure, as recited in claims 1 and 2, and 26, respectively, except a support member comprises an S shaped.

Regarding claim 20, Ichiya et al. (5,544,001) appear to be the closest prior art reference. Ichiya et al. teach substantially the entire claimed structure, as recited in claims 1, 2 and 19, except a stress-inducing layer on the upper surfaces of the first and second support members inducing a compressive stress on the support member to cause it to bend away from the lower surface upper portion of the body.

Therefore, prior art do not teach or render obviousness the semiconductor structure, as claimed.

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Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-C are cited as being related to relay structures.

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas, can be reached at **(703) 308-2772**.

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Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

A handwritten signature in black ink, appearing to read "Ori Nadav". The signature is fluid and cursive, with the first name "Ori" and last name "Nadav" clearly distinguishable.

O.N.
July 1, 2003

ORI NADAV
PATENT EXAMINER
TECHNOLOGY CENTER 2800